

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A joint structure, comprising:

a gusset plate, said gusset plate being formed from a flat plate having first and second opposed faces; and

at least one a plurality of splice plate plates connected to said gusset plate, each of said at least one plurality of splice plate plates being constructed from section steel having a non-rectangular cross-section, at least one of said plurality of splice plates having a face in direct contact with the first opposed face of said gusset plate and at least another of said plurality of splice plates having a face in direct contact with the second opposed face of said gusset plate.

2. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate is connectable to a first structural member and said at least one plurality of splice plate plates is connectable to a second structural member.

3. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate connected to said at least one plurality of splice plate plates is a first gusset plate, said first gusset plate being connectable to a second gusset plate.

4 (Original) The joint structure according to claim 3, wherein said first gusset plate is a vertical gusset plate and said second gusset plate is a horizontal gusset plate, said horizontal

gusset plate being connected to at least one additional splice plate constructed from section steel having a non-rectangular cross-section.

5. (Original) The joint structure according to claim 1, wherein said section steel is prefabricated section steel having a non-rectangular cross-section.

6. (Original) The joint structure according to claim 5, wherein said prefabricated section steel having a non-rectangular cross-section is formed off site by connecting at least one rib to a flat plate.

7. (Original) The joint structure according to claim 1, wherein the gusset plate includes a rib connected to at least one of a top edge and a vertical upright edge thereof to increase the buckling strength of the gusset plate.

8. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate includes a first joining plate connected to a first edge thereof and a second joining plate connected to a second edge thereof, and at least one of said plurality of splice plates extends toward a corner of the gusset plate beyond a yield line of the gusset plate ~~defined by the yield line theory~~ to increase the buckling strength of the gusset plate, said yield line being formed by a diagonal line extending from an edge of the first joining plate to an edge of the second joining plate.

9. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate includes said first and second opposed faces and first and second ends, said first and second ends being connected by an end edge, and said first and second ends have a rib connected thereto and said first and second opposed faces having no stiffening ribs connected thereto.

10. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate includes said first and second opposed faces, a first joining plate connected to a first edge thereof and a second joining plate connected to a second edge thereof, each of said first and second opposed faces having a stiffening rib connected thereto, and said stiffening ribs do not extend beyond a yield line of the gusset plate, ~~defined by the yield line theory~~ said yield line being formed by a diagonal line extending from an edge of the first joining plate to an edge of the second joining plate.

11. (Original) The joint structure according to claim 10, wherein said gusset plate includes first and second ends, said first and second ends being connected by an end edge and having a stiffening rib connected thereto:

12. (Currently Amended) The joint structure according to claim 1, wherein said gusset plate includes said first and second opposed faces, said first and second opposed faces having no stiffening ribs connected thereto.

13. (Currently Amended) A building, comprising:

at least one structural member; and

a joint structure connected to said at least one structural member, said joint structure comprising:

a gusset plate, said gusset plate being formed from a flat plate having first and second opposed faces; and

at least one a plurality of splice plate plates connected to said gusset plate, each of said at least one plurality of splice plate plates being constructed from section steel having a non-rectangular cross-section, at least one of said plurality of splice plates having a face in direct contact with the first opposed face of said gusset plate and at least another of said plurality of splice plates having a face in direct contact with the second opposed face of said gusset plate.

14. (Currently Amended) The building according to claim 13, wherein said gusset plate is connected to a first of said structural members and said at least one plurality of splice plate plates is connected to a second of said structural members.

15. (Currently Amended) The joint structure according to claim 13, wherein said gusset plate connected to said at least one plurality of splice plate is a first gusset plate, said first gusset plate being connectable to a second gusset plate.

16. (Original) The joint structure according to claim 15, wherein said first gusset plate is a vertical gusset plate and said second gusset plate is a horizontal gusset plate, said horizontal gusset plate being connected to at least one additional splice plate constructed from section steel having a non-rectangular cross-section.

17. (Original) The building according to claim 13, wherein said section steel is prefabricated section steel having a non-rectangular cross-section.

18. (Original) The building according to claim 17, wherein said prefabricated section steel having a non-rectangular cross-section is formed off site by connecting at least one rib to a flat plate.

19. (Original) The building according to claim 13, wherein the gusset plate includes a rib connected to at least one of a top edge and a vertical upright edge thereof to increase the buckling strength of the gusset plate.

20. (Currently Amended) The building according to claim 13, wherein said gusset plate includes a first joining plate connected to a first edge thereof and a second joining plate connected to a second edge thereof, and at least one of said plurality of splice plates extends toward a corner of the gusset plate beyond a yield line of the gusset plate defined by the yield line theory to increase the buckling strength of the gusset plate, said yield line being formed by a

diagonal line extending from an edge of the first joining plate to an edge of the second joining plate.

21. (Currently Amended) The building according to claim 13, wherein said gusset plate includes said first and second opposed faces and first and second ends, said first and second ends being connected by an end edge, and said first and second ends have a rib connected thereto and said first and second opposed faces having no stiffening ribs connected thereto.

22. (Currently Amended) The building according to claim 13, wherein said gusset plate includes said first and second opposed faces, a first joining plate connected to a first edge thereof and a second joining plate connected to a second edge thereof, each of said first and second opposed faces having a stiffening rib connected thereto, and said stiffening ribs do not extend beyond a yield line of the gusset plate, ~~defined by the yield line theory~~ said yield line being formed by a diagonal line extending from an edge of the first joining plate to an edge of the second joining plate.

23. (Original) The building according to claim 22, wherein said gusset plate includes first and second ends, said first and second ends being connected by an end edge and having a stiffening rib connected thereto.

24. (Currently Amended) The building according to claim 13, wherein said gusset plate includes said first and second opposed faces, said first and second opposed faces having no stiffening ribs connected thereto.

25. (Currently Amended) A method of assembling or reinforcing a building, comprising the steps of:

providing a gusset plate, said gusset plate being formed from a flat plate having first and second opposed faces; [[and]]

at least one providing a plurality of splice plate plates, said at least one plurality of splice plate plates having a non-rectangular cross-section; and

connecting a first end of each of said plurality of splice plate plates to said gusset plate such that at least one of said plurality of splice plates has a face in direct contact with the first opposed face of said gusset plate and at least another of said plurality of splice plates has a face in direct contact with the second opposed face of said gusset plate.

26. (Original) The method according to claim 25, wherein said method does not include on site welding to assemble or reinforce the building.

27. (Currently Amended) The method according to claim 25, further comprising the step of connecting a second end of each of said plurality of splice plate plates to a structural member of the building.

28. (Original) The method according to claim 27, further comprising the step of connecting the gusset to a structural member of the building.

29. (Currently Amended) The method according to claim 25, wherein the gusset is a preexisting gusset attached to the building, the preexisting gusset including a stiffening rib attached thereto, said method further comprising the step of connecting said first end of at least one of said plurality of splice plate plates to the stiffening rib of the preexisting gusset.

30. (Currently Amended) The method according to claim 25, wherein said gusset plate connected to said at least one plurality of splice plate plates is a first gusset plate, said method further comprising the step of connecting said first gusset plate to a second gusset plate.

31. (Original) The method according to claim 30, wherein said first gusset plate is a vertical gusset plate and said second gusset plate is a horizontal gusset plate, said method further comprising the step of connecting said horizontal gusset plate to at least one additional splice plate.

32. (Currently Amended) The method according to claim 25, further comprising the step of extending said at least one of said plurality of splice plate plates toward a corner of the gusset plate beyond a yield line of the gusset plate defined by the yield line theory to increase the buckling strength of the gusset plate, said yield line being formed by a diagonal line extending from an edge of the first joining plate to an edge of the second joining plate.